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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/598,447	09/20/2006	Jamie Oag	OPT-01	5335
23508 7590 11/17/2011 LUNDEEN & LUNDEEN, PLLC 2710 Louisiana HOUSTON, TX 77006			EXAMINER JONAITIS, JUSTIN M	
			ART UNIT 3752	PAPER NUMBER
			NOTIFICATION DATE 11/17/2011	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/598,447	Applicant(s) OAG, JAMIE	
	Examiner JUSTIN JONAITIS	Art Unit 3752	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 August 2011.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 5) ☒ Claim(s) 1,4-7,9-11,13-16,18-26 and 29-35 is/are pending in the application.
- 5a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 6) ☐ Claim(s) ____ is/are allowed.
- 7) ☐ Claim(s) 1,4-7,9-11,13-16,18-26 and 29-35 is/are rejected.
- 8) ☐ Claim(s) ____ is/are objected to.
- 9) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☒ The drawing(s) filed on 26 June 2010 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 12) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>2/23/2011, 8/3/2011</u> . | 6) <input type="checkbox"/> Other: ____. |

Claim Objections

Drawings

1. The drawings were received on 8/3/2011. These drawings are not acceptable. The drawings contain new matter. The amended figure 1 showing a filter and a nozzle with specific structure has not been specified within the specification. With respect to the specification the specification describes the filter as "a witches broom" and was corrected to read "witches hat" on 8/3/2011. However the specification does not disclose any more specifics than the general type of filter. It does not specify the filter extending into the central chamber or the main chamber. Similarly the specification only discloses the nozzle being designed to produce a fine spray or fog of water but discloses no detailed structure of how this is accomplished. Therefore the detailed filter and nozzle added to figure 1 are not supported by the specification. [page 10, lines 7-14]

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the filter and actuator must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views

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of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

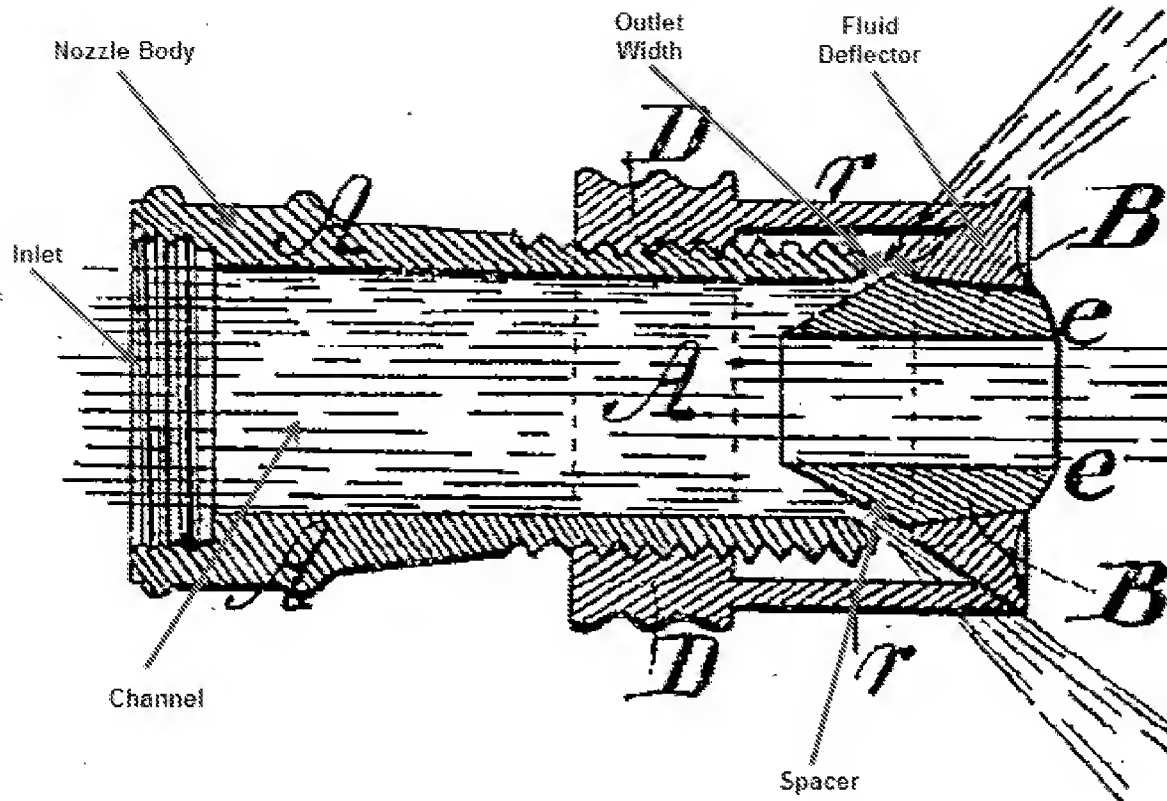
3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 9-11 and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent #89,456 to Allen.

The figure below is reproduced from the Allen reference in order to show examiner's interpretation.



Allen discloses a kit of parts for a nozzle for a hose comprising: a nozzle body (nozzle-piece (A)) having an inlet and an outlet and a channel extending between the inlet and outlet (See Figure above). The apparatus including a fluid deflector and a coupling means (collar (D)) coupling the fluid deflector to the body and arranged near the downstream end of the channel adjacent the body outlet. The fluid deflector and the body together define a width of an opening from the channel at the downstream end. The channel opening width being variable by adjusting a position of the fluid deflector relative to the body.

The body inlet and the body outlet and the fluid deflector are arranged on a longitudinal axis of the body such that the fluid flows from the body inlet along the channel to the body outlet and impinges on the fluid deflector with minimal energy loss prior to impingement on the fluid

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deflector. The nozzle comprising a self-cleaning mechanism for adjusting the channel opening width (threaded interaction of the collar and the body is a mechanical mechanism). The fluid deflector determining the direction of flow of fluid as it leaves the nozzle, wherein the fluid leaving the nozzle forms a wall of water.

The deflector being threadably coupled to the body, such that rotation of the deflector relative to the body selectively advances or retracts the deflector relative to the body, thereby facilitating adjustment of the channel opening width.

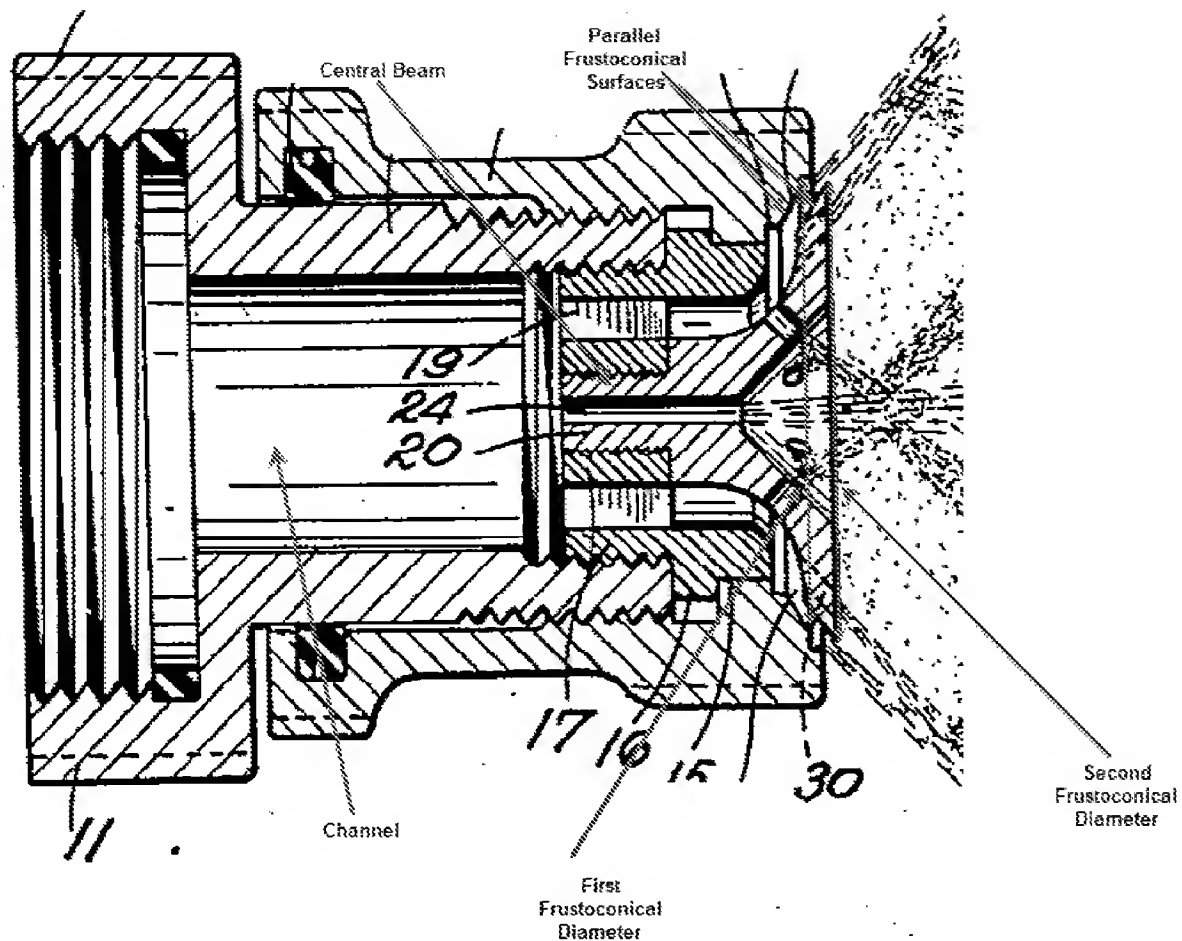
The channel providing a space suitable for accommodating a spacer to alter the position of the fluid deflector relative to the end the channel, thereby varying the width of the channel opening. (See Figure above)

Please note, It has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. **Ex parte Masham, 2 USPQ2d 1647 (1987).**

In the instant case the use of the nozzle to form a water wall around a flare in a hydrocarbon well-test operation is an intended use of the nozzle and does not further differentiate the structure over the prior art.

5. Claims 4-7, 15-16, 22, 24-25, and 29-33 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent #2323464 to Glessner.

The figure below is reproduced from the Allen reference in order to show examiner's interpretation.



Glessner discloses a nozzle comprising a body (body (10) and sleeve (12)), an annular channel extending through the body from an inlet located at an upstream end to an annular opening/outlet defined by opposing substantially parallel first and second frustoconical surfaces on a downstream end. The first frustoconical surface being formed on the nozzle body, and the second frustoconical surface formed on the fluid deflector. The fluid deflector having an outside diameter that is larger than the outside diameter of the first frustoconical surface. (see Figure above) The angle of the second frustoconical surface with respect to a main axis of the body determines the shape of the water wall formed.

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The apparatus including a central beam (see Figure above) disposed in the channel to secure the fluid deflector by being attachable to the body of the nozzle in a position to set a width of the annular opening. Wherein the position of the fluid deflector relative to the body is adjustable via a self-cleaning mechanism (threaded connection between baffle head (20) and thimble (17), is a mechanical mechanism that can adjust the deflector) to vary the width of the annular opening. The width of the annular opening determining the density of the water wall.

The fluid deflector including a deflecting surface positioned relative to the end of the channel to define the width of the first channel opening at the downstream end of the channel. The fluid deflector defining part of the first channel (See Figure, curved portion extends into the channel and therefore defines a portion of the deflector). The deflecting surface disposed at an angle of approximately 105 degrees relative to the main axis of the body such that the deflecting surface is angled away from the direction of fluid flow.

The central beam of the apparatus including a central channel (port (24)) extending through the central beam and through the deflector and the body. The main channel of the nozzle being provided with a space suitable for accommodating a spacer (thimble (17)) suitable for accommodating a spacer to alter the position of the fluid deflector relative to the downstream end of the channel thereby varying the width of the channel opening (threaded portion of thimble portion can be rotated in and out of body (11) to adjust the position of the deflector relative to the end of the channel).

The deflector being threadably coupled to the body such that rotation of the deflector relative to the body advances or retracts deflector relative to the body thereby facilitating adjustment of the channel opening width.

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Glessner further discloses a filter coupling (threaded connection on the inlet of the nozzle could be used to accommodate a filter) to couple a filter to an upstream end of the central channel.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent #89,456 to Allen. as applied to claim 1 above, and further in view of U.S. Patent #1,628,823 to Chester et al. and U.S. PG-Pub 2004/0028476 to Payne et al.

Allen discloses the apparatus as described above but fails to disclose the self-cleaning mechanism comprising an actuator and a sensor such that the deflector can be moved in response to a detected reduction in fluid flow rate.

Payne however teaches it's known to use a flow rate sensor (80) as part of a fluid control sensor group (55) such that the fluid control group allows the system to detect and respond to proper fluid flow or even no flow due to blockage.

Chester teaches it's known to provide a self-cleaning mechanism that utilizes the fluid flowing through the system as an actuator to respond to fluid pressure changes in the system, to allow the deflector to be adjusted in response to a change in the fluid pressure.

Therefore It would have been obvious to one having ordinary skill in the art at the time the invention was made to include a flow rate sensor as taught by Payne and a hydraulically actuatable deflector as taught by Chester to the apparatus disclosed by Allen, as such

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modification would allow the device to detect and respond to a change in fluid flow conditions of the device including problems with the source as well as blockages within the apparatus.

8. Claims 18-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent #2323464 to Glessner. as applied to claim 29 above, and further in view of U.S. PG-Pub 2004/0028476 to Payne et al.

In re claim 18, Glessner discloses the apparatus as described above but fails to specifically disclose the apparatus including a sensor.

Payne however teaches it's known to use a flow rate sensor (80) as part of a fluid control sensor group (55) such that the fluid control group allows the system to detect and respond to proper fluid flow or even no flow due to blockage.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to include a flow rate sensor as taught by Payne to the apparatus disclosed by Glessner, as Payne teaches that such modification allows the device to detect and respond to the fluid flow conditions of the device including problems with the source as well as blockages within the apparatus.

In re claims 19-21, Glessner in view of Payne discloses the apparatus as described above but fails to specifically the location of the sensor on the apparatus.

However it would have been obvious to one having ordinary skill in the art at the time the invention was made to select the appropriate locations where the flow rate can properly be detected, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art.

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Therefore one having ordinary skill in the art at the time the invention was made would have found it obvious to place a sensor at various locations such as on the nozzle body or in the a front surface of the deflector in order to monitor the flow conditions along various points of the apparatus.

9. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent #2323464 to Glessner as applied to claim 29 above, and further in view of U.S. Patent #163,101 to Orr.

Glessner discloses the apparatus as described above but fails to specifically disclose a secondary nozzle coupling to couple a secondary nozzle to a downstream end of the central channel.

Orr however teaches it's known to provide a central channel of a deflecting surface with a threaded connection such that a variety of fittings can be connected to the central channel such as a plug to stop flow from the central channel or a nozzle to alter the fluid flow characteristics as it exits the central channel.

Therefore one having ordinary skill in the art at the time the invention was made would have found it obvious to modify the central channel disclosed by Glessner to include a threaded connection as taught by Orr as such modification would allow for the attachment of various fittings to the end of the central channel in order to alter the way the fluid flow interacts with the central channel.

10. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent #2323464 to Glessner as applied to claim 1 above, and further in view of U.S. Patent #1,628,823 to Chester et al. and U.S. PG-Pub 2004/0028476 to Payne et al.

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Glessner discloses the apparatus as described above but fails to disclose the self-cleaning mechanism comprising an actuator and a sensor such that the deflector can be moved in response to a detected reduction in fluid flow rate.

Payne however teaches it's known to use a flow rate sensor (80) as part of a fluid control sensor group (55) such that the fluid control group allows the system to detect and respond to proper fluid flow or even no flow due to blockage.

Chester teaches it's known to provide a self-cleaning mechanism that utilizes the fluid flowing through the system as an actuator to respond to fluid pressure changes in the system, to allow the deflector to be adjusted in response to a change in the fluid pressure.

Therefore It would have been obvious to one having ordinary skill in the art at the time the invention was made to include a flow rate sensor as taught by Payne and a hydraulically actuatable deflector as taught by Chester to the apparatus disclosed by Glessner, as such modification would allow the device to detect and respond to a change in fluid flow conditions of the device including problems with the source as well as blockages within the apparatus.

Response to Arguments

11. Applicant's arguments with respect to claims 1, 4-7, 9-11, 13-16, 18-26, 29-34 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JUSTIN JONAITIS whose telephone number is (571)270-5150. The examiner can normally be reached on Monday - Thurs 6:30am - 5:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Len Tran can be reached on (571)272-1184. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/JUSTIN JONAITIS/

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Examiner, Art Unit 3752

11-9-2011

/Jason J Boeckmann/

Primary Examiner, Art Unit 3752